Multi-Band Antenna System

ABSTRACT OF THE DISCLOSURE

A multi-band antenna system for a portable communications device (e.g. a PC Card wireless modem) is disclosed. The multi-band antenna system comprises a dipole antenna, a reactive circuit, and transmission means coupled between the reactive circuit and the dipole antenna. For signals having frequencies within a first frequency band (e.g. the CDMA 0.86 GHz band), the reactive circuit operates as a trap, i.e. as a substantially high impedance, which enables a radiation impedance of a monopole formed by the presence of the trap to be coupled directly into the feed system (e.g. a diplexer) of the antenna system. The dipole antenna is configured and dimensioned to receive signals within a second frequency band (e.g. the PCS 1.92 GHz band). Second frequency band signals received by the dipole antenna are conducted through the signal conductor of the transmission means to the feed system substantially unimpeded by the reactive circuit. The multi-band antenna system may further include a diversity antenna, which may be configured so that it is polarized orthogonal the to dipole antenna.